

SPIRIT_{GT}

Operator's
Manual



MOTOROLA

FCC Licensing Information

Your Motorola radio operates on FM radio communication frequencies and is subject to the Rules and Regulations of the Federal Communications Commission (FCC). The FCC requires that all operators using Private Land Mobile frequencies obtain a radio license before operating their equipment. Application for your FCC license is made on FCC Form 600 and schedules D, E, and G. To have the forms faxed to you by the FCC, call the FCC

Fax-On-Demand system at:

1-202-418-0177

from your Fax machine and request document 000600 for all forms and instructions.

To have the forms mailed to you, call the FCC forms hotline at:

1-800-418-FORM

(1-800-418-3676)

For questions concerning the license application, contact the FCC at:

1-888-CALL-FCC

(1-888-225-5322)

Or:

<http://www.fcc.gov>

Before filling out your application, you must decide which frequency(ies) you can operate on. See frequency table on page 27. For questions on determining your radio frequency, please call Motorola Product Services at:

1-800-448-6686

Table Of Contents

Your New Radio

| | |
|---------------|-----|
| Radio Diagram | 2-3 |
|---------------|-----|

NIMH Battery

| | |
|-----------------------------|---|
| Removing Battery Door | 4 |
| Installing the NiMH Battery | 5 |
| Charging the NiMH Battery | 6 |
| Battery Meter | 7 |
| Low Battery Alert | 7 |

Belt Holster

| | |
|--------------------------|---|
| Using Radio with Holster | 8 |
|--------------------------|---|

Before You Can Talk

| | |
|-------------------------------|---|
| Spirit GT Radio Frequencies | 9 |
| Interference Eliminator Codes | 9 |
| Bands | 9 |

Operation

| | |
|-----------------------------|----|
| Turning the Radio On | 10 |
| Adjusting the Volume | 10 |
| Monitoring Channel Activity | 10 |
| Call and Alert Tones | 11 |
| Transmitting Messages | 11 |

Programming

| | |
|--------------------------------------------------|----|
| Changing the Channel - Spirit GT+ Only | 12 |
| Programming a Frequency to a Selected Channel | 12 |
| Exiting Programming Mode | 12 |
| Programming the Code | 13 |
| Frequency and Code Verification | 13 |

Spirit GT Series Features

| | |
|----------------|----|
| Display Light | 14 |
| Auto Reset | 14 |
| Time-out Timer | 14 |
| Lock | 15 |

Spirit GT+ Features

| | |
|------------------------------|----|
| Channel Scan-Spirit GT+ Only | 16 |
| Activating Scan Feature | 16 |
| Pausing on a Channel | 16 |

Hands Free Use

| | |
|-------------------------|----|
| Enabling VOX | 17 |
| Setting VOX Sensitivity | 18 |

Additional Information

| | |
|-----------------|----|
| Accessories | 19 |
| Talk Range | 20 |
| Care and Safety | 20 |

Troubleshooting

| | |
|-----------------|-------|
| Troubleshooting | 21-22 |
|-----------------|-------|

Safety Information

| | |
|------------------------------|-------|
| Cautions and Warnings | 23-24 |
| Charging Safety Instructions | 25-26 |

| | |
|---------------------------------------|----|
| Frequency Chart | 27 |
| Interference Eliminator Code Chart | 27 |

Warranty

| | |
|------------------------------|-------|
| One Year Limited Warranty | 28-29 |
| Computer Software Copyrights | 30 |
| Specifications | 31 |

Your New Radio

Congratulations on your purchase of the Spirit GT Business Radio. Your radio is a product of Motorola's 70 plus years of experience as a world leader in the designing and manufacturing of communications equipment. With proper care and use, your Motorola radio should give you years of reliable communication.

Motorola Spirit GT professional two-way radios are the perfect communications solution for all of today's fast-paced industries. Designed to help meet the demands of the modern workplace, these radios are compact and durable. A powerful communications tool, these "line-of-site" radios can communicate up to 4 miles in clear, unobstructed environments.

Contents of Package

Radio
Holster
NiMH Battery
3 Hour Charger Adapter

Literature (Not shown)

Owner's Manual
Warranty Card
Quick Reference Guide

On-Off/Volume Knob

Used to adjust volume, turn radio on or off.

LED Indicator Light

Indicates radio is on; will be steady red when transmitting.

Battery Meter Indicator

Indicates how much battery charge is left.

Accessory Connector

Used for plugging in optional audio accessories.

Call Button

Calls other radio users.

Lock Button*

Scan/Lock Button**

Scans frequencies for activity.

Locks radio to prevent accidental change of settings.

Internal Microphone

Used to talk into.

* 1 Channel Model

** 2 Channel Model

GT + Model Shown

Please read this manual carefully to ensure you know how to properly operate the radio before use.

FCC License required.

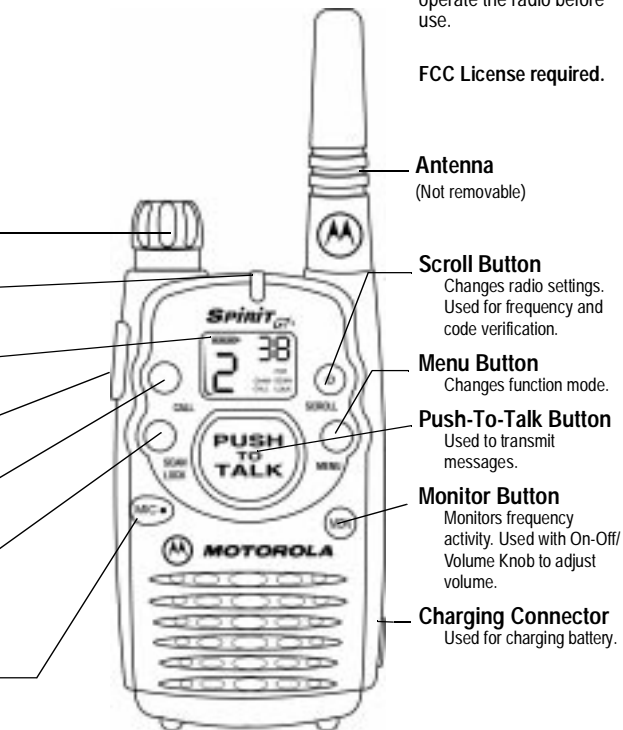


Figure 1.

NiMH Battery

Your Spirit GT radio operates on a Nickel Metal Hydride (NiMH) rechargeable battery. The NiMH rechargeable battery will provide up to 9 hours of operation with normal use. Standard 5/5/90 duty cycle (5% transmit, 5% receive, 90% standby).

Removing the Battery Door:

1. Grasp radio with one hand, display side down (do not hold radio antenna).
2. Slide battery door back half-way until you feel resistance. Figure 3.
3. Remove battery door from radio by lifting door up as shown. Figure 4.

Step 1

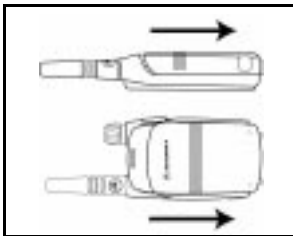


Figure 2.

Step 2

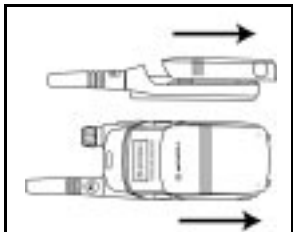


Figure 3.

Step 3

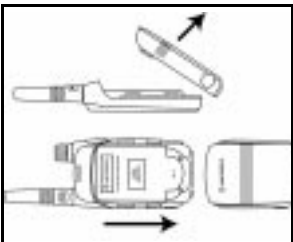


Figure 4.

Installing the NiMH Battery:

1. Remove battery door. Figures 2-4.
2. Insert NiMH battery so that the contact sides are down (see note below). Figure 5.
3. Replace the NiMH battery door by positioning it halfway up the radio body. Figure 6.
4. Push battery door up until secure.

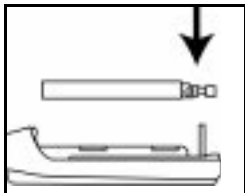


Figure 5.

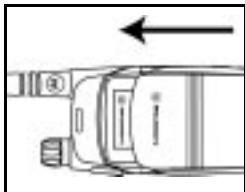


Figure 6.

Stop Sign: The NiMH battery has a stop sign symbol to remind you to turn the battery over and align holes with pegs before inserting battery into the radio, contact sides down. Figure 7.

When power is low, recharge the battery immediately to avoid interrupted use.



Figure 7.

Charging the NiMH Battery:

To get maximum use from the battery, charge it for at **least five hours before you use it for the first time**. After initial charging, battery will fully charge in about three hours.

1. Turn the radio off.
2. Plug charger into an AC wall outlet.

Figure 8.

3. Lift the charging connector cover on radio (not detachable) and plug charger connector into jack. Figure 9.
4. LED Indicator on Battery Charger will flash. (See chart below for complete charging status).

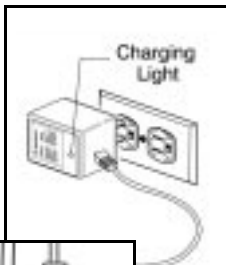


Figure 8.

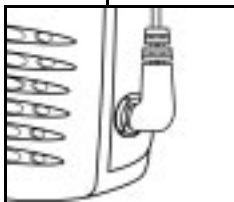


Figure 9.

Notes: For optimum battery life, battery should not be left charging for extended periods.

Do not transmit while radio is charging. Transmitting while radio is charging can cause transmitter or charger to operate improperly.

Turn radio off when charging. If radio is on while charging, at least twice as much time is required to charge the battery.

The battery may also be charged outside of the radio.

| LED Color | Charging Status | Completion |
|------------------|-----------------|-------------|
| Solid red | Rapid | Up to 90% |
| Flashing Green | Top-off | 90% to 100% |
| Solid Green | Complete | 100% |
| Flashing Red | Battery Fault | _____ |
| Flashing Yellow* | Standby | _____ |

*Battery is not receiving correct voltage. Battery charging temperature must remain between 0° to 40° C/32° F to 104° F.

Battery Meter

The battery meter, located on the display, is divided into three bars. As power is used, the bars will disappear. Figure 10.

Note: To ensure proper functioning of the battery meter use only the Motorola NiMH rechargeable battery included with your radio.



Figure 10.

Low Battery Alert

When the battery is low, the radio will beep:

- 3 to 4 seconds after turning power on
- every 10 minutes in standby mode
- after releasing Push-To-Talk button
- after releasing the Call button

Note: Remove battery before storing your radio for extended periods. Battery may corrode over time and cause permanent damage to your radio.

Belt Holster

Spirit GT radios come with a belt holster.

Using Radio with Holster:

1. Position the base of the radio in bottom of holster.
2. Push the radio towards the holster until it latches into place. Figure 11.
3. To remove radio from holster, pull the top tab on holster away from radio. Figure 12.
4. Attach radio in its holster to your belt or waistband. Figure 13.

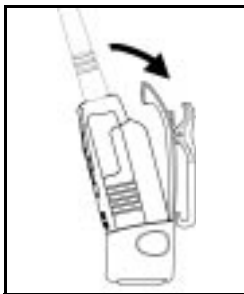


Figure 11.

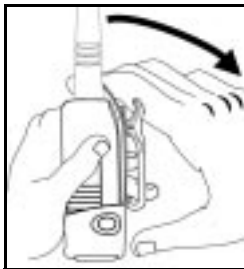


Figure 12.

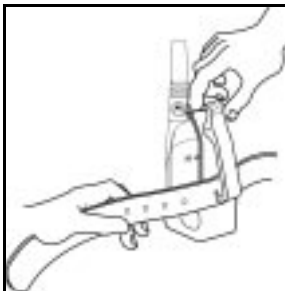


Figure 13.

Before You Can Talk

Read this manual carefully, make sure you know how to properly operate the radio before use. Spirit GT radios have 1 channel and Spirit GT+ radios have 2 channels, both have 38 Interference Eliminator Codes. **To talk to others, all radios in your group must be set to the same frequency and code.**

Spirit GT Radio Frequencies

You can only communicate with any radios that are set on the same frequency and code. The chart on page 27 shows you the 8 frequencies on which Spirit GT business two-way radios can operate.

You can program any one of the eight frequencies (F1 through F8) to channel 1 for the Spirit GT one channel radio or to channel 1 or 2 for the Spirit GT+ two channel radio.

Interference Eliminator Codes

Codes filter out static, noise and unwanted messages on radio channels. Since radio channels can be monitored, this will not make your conversations private. To avoid a congested frequency, change radio's frequency/code setting. See chart on page 27 for code frequencies.

Bands

FCC Regulations require that most new licensees must be operating on 12.5 kHz channel spacing capable radio. The Spirit GT and Spirit GT+ radios operate on 12.5 kHz channel spacing and may not have optimal sound quality when used with radios operating on 25 kHz channel spacing. If you have any questions, call Motorola Product Services at 1-800-448-6686.

Operation

Turning the Radio On:

1. Turn the On-Off/Volume Knob clockwise. You will hear a beep and see the LED Indicator Light flash momentarily to indicate the radio is on.
2. To turn the radio off, turn the On-Off/Volume knob counterclockwise. You will hear a click to indicate the radio is turned off. Figure 14.



Figure 14.

Note: When you turn the radio on you are in normal operating mode.

Adjusting the Volume:

Hold Monitor button down to listen to audio level while rotating On-Off/Volume Knob. Rotate clockwise to increase and counterclockwise to decrease volume.

Monitoring Channel Activity:

The Monitor button is used to check activity on current frequency before transmitting. Check frequency activity by pressing the Monitor button, you'll hear static if the frequency is clear. Don't transmit if you hear conversation.

Call and Alert Tones

The four Call Tones on the Spirit GT radios are used to alert other radio users of an incoming transmission on the same frequency and code. They are set at a fixed minimum volume level, but Call Tones become louder as volume increases.

Alert Tones (beeps) confirm radio functions. Alert Tones can be disabled. When Alert Tones are disabled, the radio will receive messages at the volume setting you've selected, but you will not hear beeps when you press control buttons.

Setting Call Tones:

1. With radio on, press the Menu button once. Call Tone number flashes.
Figure 15.
2. Use Scroll button to select one of the four Call Tones.

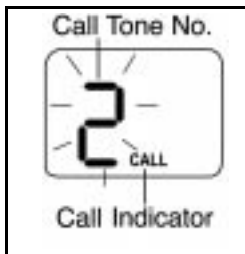


Figure 15.

Disabling Call and Alert Tones:

1. Turn the radio off.
2. Hold down the Monitor button while you turn radio on again.
3. To re-activate Alert Tones, turn the radio off, then on again while holding the Monitor button down.

Transmitting Messages:

Check frequency activity by pressing Monitor button. You'll hear static if frequency is clear to use. Don't transmit if frequency is in use.

1. To transmit, press Push-To-Talk and speak into radio.
2. The LED Indicator Light will glow continuously when transmitting.

Receiving Messages:

1. To receive messages, release the Push-To-Talk button.

To maximize clarity, hold radio 2 to 3 inches from mouth.

Programming

Changing the Channel: Spirit GT+ Only

Use the Scroll button to select channel 1 or 2.

Programming the Spirit GT+ radio is a two step process:

1. Frequency selection
2. Code selection

Note: The radio will return to operation mode in 10 seconds or after pressing Push-To-Talk button.

Programming a Frequency to a Selected Channel:

1. Press and hold down the Push-To-Talk button while turning the radio on, wait for approximately 5 seconds then release the Push-To-Talk button.
2. Use Scroll button to select one of the 8 frequencies. Figure 16.
3. **On a Spirit GT+**, press the Monitor button.
4. The current channel will flash, press scroll button to change channel.
5. After the second channel is selected, press Monitor button again, current frequency for second channel will flash. Figure 16.
6. Use Scroll button to select new frequency.

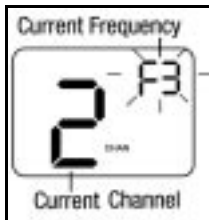


Figure 16.

Exit Programming Mode - 3 Ways

1. Press Push-To-Talk to exit completely.
2. Allow the Menu time to expire (10 seconds).
3. Press Menu button to go to code programming.

Note: Spirit GT+ users can set a different frequency for each channel.

Programming Cont.

Programming the Code:

1. Press and hold down the Push-To-Talk button while turning the radio on, wait for approximately 5 seconds then release the Push-To-Talk button.
2. Hit Menu button once, Code number will flash. Figure 17.
3. Use Scroll button to select a new code for the radio.

Note: If using a Spirit GT+, the code will be the same for both channels.

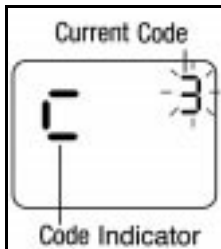


Figure 17.

Frequency and Code Verification:

To check frequency and code, turn radio on, the radio panel displays current settings.

Spirit GT

1. Press Menu button 3 times. The channel and frequency will be displayed.
2. Press Menu button one more time, code will be displayed.

Spirit GT+

1. Press Menu button 3 times. The channel and frequency will be displayed. Figure 18.
2. Press Scroll button to change channel.
3. Press Menu button one more time, code will be displayed.

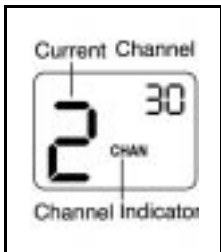


Figure 18.

Spirit GT Features

Display Light

Spirit GT radios have a backlit display which comes on when you first turn on the radio. The backlit display will then stay on for 3 seconds. To turn backlight on, press any button except for the Call and Push-To-Talk Buttons.

Auto Reset

The Reset feature returns all user programmable features back to the original factory settings.

1. Turn radio off.
2. Hold down both the Monitor and Push-To-Talk buttons while turning the radio on. Radio emits audible confirmation tone.

Time-out Timer

The Time-out Timer feature helps extend battery life by preventing accidental transmission. If the Push-To-Talk button is pressed for 60 continuous seconds, the radio will emit a warning beep approximately 4 seconds before a continuous warning tone that indicates transmission cutoff is about to occur.

Spirit GT Features

Lock

Lock allows you to disable the Scroll, Menu, and Scan (Spirit GT+ only) buttons so that the radio settings cannot be changed accidentally.

Activating Lock Feature:

Press and hold the Lock or Scan/Lock button until **LOCK** appears on the display.



Figure 19.

Disabling Lock Feature:

1. Press and hold Lock or Scan/Lock button until **LOCK** disappears.
2. Radio emits audible tone to confirm lock and unlock feature activation. Disabled buttons will beep if pressed (when AlertTones are enabled).

Spirit GT+ Features

Channel Scan - Spirit GT+ Only

Scan allows you to monitor frequencies and codes of other transmitting radios. When the radio detects frequency activity, it stops scanning and locks in on the active frequency and code. It allows you to listen and talk to the person(s) transmitting without having to switch channels. Radios will scan all codes (38) on all selected channels but will only scan the two frequencies that were programmed onto the two channels (see radio programming). To scan for radios without Interference Eliminator Codes, change your code to zero (off) before pressing the Scan button.

Activating the Scan Feature:

1. With the radio on, press and release the Scan/Lock button. **SCAN** appears on the display, flashing. Figure 20.
2. When the radio detects frequency activity, **SCAN** stops flashing and the active channel and code are displayed.
3. If you want to talk back on this channel/code, press Push-To-Talk button within 5 seconds or radio will return to scanning.
4. To turn off the Scan feature and return to normal operation mode press and release the Scan/Lock button.

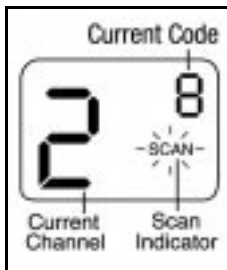


Figure 20.

Pausing on a Channel:

1. Press Monitor button to lock or hold your radio to displayed channel and code. **CHAN SCAN** appears to confirm active settings.
2. To begin scanning again, press the Monitor button.
3. The radio will return to scan mode after 5 seconds or after you press the Push-To-Talk button.
4. To turn off the Scan feature and return to normal operation mode press the Scan/Lock button.

Radio will scan only on the selected frequencies for channel(s) 1 and 2 and all codes.

Hands Free Use

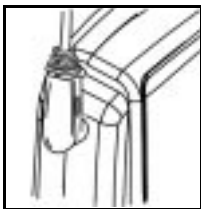
Spirit GT radios have built-in Voice Operated Transmission (VOX) capability. This means the sound of your voice activates transmission when the radio is used with a VOX accessory (sold separately).

CAUTION

Lower volume with Volume knob before placing accessory on head or in ear.

Enabling VOX:

1. With the radio off, plug accessory's connector into jack on left side of the radio. Figure 21.
2. Turn radio on.
3. Lower volume before placing accessory on head or in ear. **VOX** appears on display to indicate VOX is active.
4. To transmit, speak into accessory microphone, you will hear your voice in the earpiece, confirming you are transmitting. To receive, stop talking. Figure 21.



Note: There'll be a brief delay between when you start/stop talking and transmission time. You'll hear transmissions through the audio accessory's earpiece (sold separately). Pressing Push-To-Talk button disables VOX.

Resetting to Push-To-Talk Mode:

1. Press Push-To-Talk button once. **VOX** display will disappear.
2. To transmit, press Push-To-Talk. To receive, release Push-To-Talk.

Notes:

- To return to VOX mode, turn radio off, then back on. Vox will appear in display.
- Accessory Jack Cover is not detachable and should be closed when not in use.

VOX Sensitivity

Spirit GT radios allow you to adjust the VOX sensitivity of the radio to compensate for varying levels of background noise.

Setting VOX Sensitivity:

1. With the radio on, press Menu button two times to enter VOX sensitivity mode.
2. **VOX** will appear on display along with the current VOX setting, which will flash. Figure 22.
3. Use Scroll buttons to select sensitivity level.

Three Sensitivity Levels:

- 1 = Low sensitivity, high levels of background noise.
- 2 = Medium sensitivity, used in most applications.
- 3 = High sensitivity, low levels of background noise.

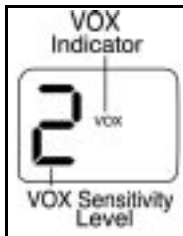


Figure 22.

Note: The radio will return to normal operation mode after 10 seconds or after you press the Push-To-Talk button.

Additional Information

Accessories

There are several audio and carrying accessories (sold separately) available for Spirit GT radios. Accessories allow you to customize radios to suit your business communications needs. The right accessory can enhance productivity and can help you increase customer satisfaction.

For information, contact your place of purchase or call Motorola at:

1-800-448-6686



CAUTION

When using audio accessories, the radio's volume should be kept at a comfortable listening level. Before you place the audio accessory on your head or in your ear, turn down the volume.

Talk Range

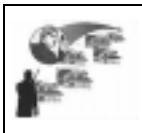
Spirit GT radios have been designed to maximize performance and improve transmission range. It is recommended that you do not use the radios closer than 5 feet apart because of heavy interference.

Talk range depends on the terrain. These are line of sight radios and talk range will be affected by steel/concrete structures, residential/multi-level buildings, heavy foliage and operating radios indoors and in vehicles. The pictures and brief descriptions below indicate general transmission range while operating Spirit GT radios in the following environments.



Outdoor

Flat ground with no obstructions, up to 4 miles.



Residential

Around residential buildings, up to 1.5 miles



Industrial

Steel/concrete
Industrial buildings, up
to 200,000 sq. ft.



Multi-Level

Multi-level buildings, up
to 15 floors.

Care and Safety

To clean the radio, wipe with a soft cloth dampened with water. Don't use cleaners or solvents on the radio, they can harm the body and leak inside, causing permanent damage. Battery contacts may be wiped with a dry, lint-free cloth.

If the radio gets wet, turn it off and remove battery immediately. Dry battery compartment with a soft cloth to minimize potential water damage. Leave cover off the battery compartment overnight or until completely dry. Do not use the radio until completely dry.

Troubleshooting

| | |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No Power | Recharge or replace NiMH battery. |
| Message Not Transmitted | <p>Make sure the Push-To-Talk button is completely pressed as you transmit, LED should glow continuously.</p> <p>Reposition, replace or charge battery.</p> |
| Message Not Received | <p>Confirm radios have the same frequency and Interference Eliminator Code settings.</p> <p>Make sure Push-To-Talk is not inadvertently being pressed.</p> <p>Reposition, replace or charge battery.</p> <p>Buildings, obstructions, operating indoors or in vehicles may interfere with communication. Change your location.</p> |
| Hearing Other Noise or Conversation on a Channel | <p>Make sure volume is turned up.</p> <p>Confirm Interference Eliminator Code is set, (active settings are 1-38).</p> <p>Shared frequency or Interference Eliminator Code may be in use, change frequency or code.</p> |
| Limited Talk Range | <p>Steel/concrete structures, heavy foliage and use in residential/industrial areas, buildings and in vehicles will decrease range, check for clear line of sight to improve transmission.</p> <p>Wearing radio close to body such as in a pocket or on a belt will decrease range, change location of radio.</p> |

Heavy Static or Interference

Radios too close. Radios must be at least 5 feet apart.

Radios too far apart. Obstacles interfere with transmission. Talk range is up to 4 miles in clear, unobstructed conditions.

Channel/Code Locked

Make sure radio is unlocked. See page 15 for more information.

Low Battery

Recharge NiMH battery. Extreme operating temperatures will affect the life of the battery.

Charger Not Functioning

Charger pin is not properly in place. Check to make sure the charger pin is fully inserted into the radio. If so, allow the radio to charge until the LED glows solid green. Make sure charger is plugged into a power source.

Remove battery from radio and try to charge separately.

Motorola Product Services

If the radio still doesn't work properly, contact your place of purchase or call Motorola Product Services at:

1-800-448-6686

Safety Information

Exposure To Radio Frequency Energy

The design of your Motorola two-way radio, which generates radio frequency (RF) electromagnetic energy (EME), is designed to comply with the following national and international standards and guidelines regarding exposure of human beings to radio frequency electromagnetic energy:

- FCC Report and Order FCC 96-326 (August, 1996)
- American National Standards Institute (C95-1 - 1992)
- National Council on Radiation Protection and Measurements (NCRP - 1986)
- International Commission on Non-Ionizing Radiation Protection (ICNRP - 1986)
 - Env. 50166 - 1 1995 E - Human Exposure to Electromagnetic Fields Low Frequency (0 Hz to 10 kHz)
 - Env. 50166 - 2 1995 E - Human Exposure to Electromagnetic Fields High Frequency (10 kHz to 300 kHz)
 - Proceeding of SC211/8 1996 - Safety Considerations for Human Exposure to E.M.F's from Mobile Telecommunications Equipment (M.T.E.) in the Frequency Range 30 MHz - 6 GHz (E.M.F.-Electromagnetic Fields)

To assure optimal radio performance and to ensure that exposure to RF energy is within the guidelines in the above standards, the following operating procedures should be observed:

When transmitting with a two-way portable radio:

- Hold radio in a vertical position with its microphone 2-3 inches (5.0 to 7.5 cm) away from your mouth.
- Keep antenna at least 1 inch (2.5 cm) from your head and body.
- If you wear a portable radio on your body, ensure that the antenna is at least one inch (2.5 cm) from your body when transmitting.



Electromagnetic Interference Compatibility

Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed or otherwise configured for electromagnetic compatibility.

- Turn your radio OFF in any facilities where posted notices instruct you to do so. Hospitals or health care facilities may be using equipment that is sensitive to external RF energy.
- Turn your radio off when on board aircraft when instructed to do so. Any use of the radio must be in accordance with airline regulations or crew instructions.

CAUTION

Damaged Antennas

Do not use the radio with a damaged antenna. If a damaged antenna comes in contact with the skin, a minor burn may result.

Batteries

All batteries can cause property damage and/or bodily injury or burns if a conductive material such as jewelry, keys or beaded chains touches exposed terminals. The material may complete an electrical circuit (short circuit) and become quite hot. Exercise care in handling any charged battery, particularly when placing it inside a pocket, purse or other container with metal objects.

WARNING

For Vehicles With an Air Bag

Do not place a portable radio in the area over an air bag or in the air bag deployment area. Air bags inflate with great force. If a portable radio is placed in the air bag deployment area and the air bag inflates, the radio may be propelled with great force and cause serious injury to occupants of vehicle.

Potentially Explosive Atmospheres

Turn your radio OFF when in any area with a potentially explosive atmosphere, unless it is a type especially qualified for such use (for example, Factory Mutual Approved). Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death. These radios are not Intrinsically Safe. If you need an Intrinsically Safe radio, contact Motorola at 1-888-567-7347.

Batteries

Do not replace or charge batteries in a potentially explosive atmosphere. Contact sparking may occur while installing or removing batteries and cause an explosion.

Blasting Caps and Areas

To avoid possible interference with blasting operations, turn your radio OFF near electrical blasting caps or in a "blasting area" or in areas posted: "Turn off two-way radio". Obey all signs and instructions.

Note: Areas with potentially explosive atmospheres are often, but not always, clearly marked. They include fuelling areas such as below deck on boats, fuel or chemical transfer or storage facilities; areas where the air contains chemicals or particles, such as grain, dust, or metal powders; and any other area where you would normally be advised to turn off your vehicle engine.

Charging Safety Instructions

SAVE THESE INSTRUCTIONS

Before using the battery charger, read all instructions and cautionary markings on,

- the battery,
- battery charger, and
- the radio using the battery.



CAUTION

To reduce the risk of injury, charge only the rechargeable batteries listed. Other types of batteries may burst, causing personal injury and damage.

Single-Unit Charger

| Kit Number | Description | Power Supply |
|------------|------------------------------|--------------|
| NTN9105A | 110V - NiMH Charging Adapter | 2585305C01 |

| Kit Number | Capacity in milliampere-hour mAh / Description / Composition |
|------------|--------------------------------------------------------------|
| HNN9720 | 750 mAh/Spirit GT |

Charging Guidelines

Make sure you follow these charging safety guidelines:

1. Do not expose the charger to rain or snow.
2. Do not operate the charger if it has received a sharp blow, or has been dropped or damaged in any way.
3. Do not disassemble the charger. If it does not work properly return it to the point of purchase if within 90 days of purchase. Incorrect reassembly may result in a risk of electric shock or fire.
4. Never alter the AC cord or plug provided with the unit. If plug will not fit the outlet, have proper outlet installed by a qualified electrician. An improper condition can result in a risk of electric shock.
5. To reduce risk of damage to cord or plug, pull by the plug rather than the
6. cord when disconnecting charger from AC receptacle.
7. To reduce the risk of electric shock, unplug the charger from the outlet before attempting any maintenance or cleaning.
8. Use of an attachment not recommended or sold by Motorola may result in a risk of fire, electric shock, or personal injury.
9. Make sure that the cord is located so that it will not be stepped on, tripped over, or subjected to damage or stress.
10. An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and/or electric shock. If an extension cord must be used, make sure:
 - That the pins on the plug of the extension cord are the same
 - Number, size, and shape as those on the plug of the charger.
 - That the extension cord is properly wired and in good electrical condition, and
 - That the cord size is 18 AWG for lengths up to 100 feet, and 16 AWG for lengths up to 150 feet.
11. The supply cord of this charger cannot be replaced. If the cord is damaged, the charger should be discarded or returned to the point of purchase if within 90 days of purchase.

Frequency Chart

| Frequency Number | Frequency MHz | Frequency Color | Frequency Number | Frequency MHz | Frequency Color |
|---------------------|------------------|--------------------|---------------------|------------------|--------------------|
| 1 | 464.5000 | Brown | 5 | 467.8500 | Silver Star |
| 2 | 464.5500 | Yellow | 6 | 467.8750 | Gold Star |
| 3 | 467.7625 | J | 7 | 467.9000 | Red Star |
| 4 | 467.8125 | K | 8 | 467.9250 | Blue Star |

Interference Eliminator Code Chart

| Spirit GT Code | Hz Freq | Spirit GT Code | Hz Freq |
|----------------|---------|----------------|---------|
| 1 | 67.0 | 20 | 131.8 |
| 2 | 71.9 | 21 | 136.5 |
| 3 | 74.4 | 22 | 141.3 |
| 4 | 77.0 | 23 | 146.2 |
| 5 | 79.7 | 24 | 151.4 |
| 6 | 82.5 | 25 | 156.7 |
| 7 | 85.4 | 26 | 162.2 |
| 8 | 88.5 | 27 | 167.9 |
| 9 | 91.5 | 28 | 173.8 |
| 10 | 94.8 | 29 | 179.9 |
| 11 | 97.4 | 30 | 186.2 |
| 12 | 100.0 | 31 | 192.8 |
| 13 | 103.5 | 32 | 203.5 |
| 14 | 107.2 | 33 | 210.7 |
| 15 | 110.9 | 34 | 218.1 |
| 16 | 114.8 | 35 | 225.7 |
| 17 | 118.8 | 36 | 233.6 |
| 18 | 123.0 | 37 | 241.8 |
| 19 | 127.3 | 38 | 250.3 |

Note: Code (0) disables Interference Eliminator Codes. This allows you to monitor all activity on the frequency you are using.

For Spirit GT compatibility information with other Motorola two-way radios, please call 1-800-448-6686.

Spirit GT Series radios have a one (1) year limited warranty.

Limited Warranty Motorola Communication Products

This warranty applies within the fifty (50) United States and the District of Columbia.

I. WHAT THIS WARRANTY COVERS AND FOR HOW LONG:

MOTOROLA INC. ("MOTOROLA") warrants the MOTOROLA products listed below in the product warranty schedule section of this warranty document ("Product") against defects in material and workmanship under normal use and service for a period of time from the date of purchase as scheduled below: MOTOROLA, at its option, will, at no charge, either repair the Product (with new or reconditioned parts), replace it (with a new or reconditioned Product), or refund the purchase price of the Product during the warranty period provided it is returned in accordance with the terms of this warranty. Replaced parts or boards are warranted for the balance of the original applicable warranty period. All replaced parts of Product shall become the property of MOTOROLA. This express limited warranty is extended by MOTOROLA to the original end user purchaser only and is not assignable or transferable to any other party. This is the complete warranty for the Product manufactured by MOTOROLA. MOTOROLA assumes no obligations or liability for additions or modifications to this warranty unless made in writing and signed by an officer of MOTOROLA. Unless made in a separate agreement between MOTOROLA and the original end user purchaser, MOTOROLA does not warrant the installation, maintenance or service of the Product. MOTOROLA cannot be responsible in any way for any ancillary equipment not furnished by MOTOROLA which is attached to or used in connection with the Product, or for operation of the Product with any ancillary equipment, and all such equipment is expressly excluded from this warranty. Because each system which may use the Product is unique, MOTOROLA disclaims liability for range, coverage, or operation of the system as a whole under this warranty.

II. GENERAL PROVISIONS:

This warranty sets forth the full extent of MOTOROLA's responsibilities regarding the Product. Repair, replacement or refund of the purchase price, at MOTOROLA'S option, is the exclusive remedy. THIS WARRANTY IS GIVEN IN LIEU OF ALL OTHER EXPRESS WARRANTIES. IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY. IN NO EVENT SHALL MOTOROLA BE LIABLE FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT, FOR ANY LOSS OF USE, LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS, LOST PROFITS OR SAVINGS OR OTHER INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE SUCH PRODUCT, TO THE FULL EXTENT SUCH MAY BE DISCLAIMED BY LAW.

III. STATE LAW RIGHTS:

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY. This warranty gives specific legal rights, and there may be other rights which may vary from state to state.

IV. HOW TO GET WARRANTY SERVICE:

To receive warranty service, deliver or send the Product item, transportation and insurance prepaid, to the place of purchase along with your proof of purchase or lease and Product item serial number. For other locations, alternatively call:

1-800-448-6686

V. WHAT THIS WARRANTY DOES NOT COVER:

- a)** Defects or damage resulting from use of the Product in other than its normal and customary manner.
- b)** Defects or damage from misuse, accident, liquid, or neglect.
- c)** Defects or damage from improper testing, operation, maintenance, installation, alteration, modification, or adjustment.
- d)** Breakage or damage to antennas unless caused directly by defects in material workmanship.
- e)** A Product subjected to unauthorized Product modifications, disassemblies or repairs (including, without limitation, the addition to the Product of non-Motorola supplied equipment) which adversely affect performance of the Product or interfere with Motorola's normal warranty inspection and testing of the Product to verify any warranty claim.
- f)** Product which has had the serial number removed or made illegible.
- g)** Rechargeable batteries if:
 - 1) any of the seals on battery enclosure of cells are broken or show evidence of tampering.
 - 2) the damage or defect is caused by charging or using the battery in equipment or service other than the Product for which it is specified.
- h)** Freight costs to the repair depot.
- i)** A Product which, due to illegal or unauthorized alteration of the software/firmware in the Product, does not function in accordance with Motorola's published specifications or the FCC type acceptance labeling in effect for the Product at the time the Product was initially distributed from Motorola.
- j)** Scratches or other cosmetic damage to Product surfaces that does not effect operation of the Product.
- k)** Normal and customary wear and tear.

VI. PATENT AND SOFTWARE PROVISIONS:

MOTOROLA will defend, at its own expense, any suit brought against the end user purchaser to the extent that it is based on a claim that Product or parts infringe a United States patent, and MOTOROLA will pay those costs and damages finally awarded against the end user purchaser in any such suit which are attributable to any such claim, but such defense and payments are conditioned on the following: a) that MOTOROLA will be notified promptly in writing by such purchaser of any notice of such claim; b) that MOTOROLA will have sole control of the defense of such suit and all negotiations for its settlement or compromise; and c) should the Product or parts become, or in MOTOROLA's opinion be likely to become, the subject of a claim of infringement of a United States patent, that such purchaser will permit MOTOROLA, at its option and expense, either to procure for such purchaser the right to continue using the Product or parts or to replace or modify the same so that it becomes non-infringing or to grant such purchaser a credit for the Product or parts as depreciated and accept its return. The depreciation will be an equal amount per year over the lifetime of the Product or parts as established by MOTOROLA. MOTOROLA will have no liability with respect to any claim of patent infringement which is based upon the combination of the Product or parts furnished hereunder with software, apparatus or devices not furnished by MOTOROLA, nor will MOTOROLA have any liability for the use of ancillary equipment or software not furnished by MOTOROLA which is attached to or used in connection with the Product. The foregoing states the entire liability of MOTOROLA with respect to infringement of patents by the Product or any parts thereof. Laws in the United States and other countries preserve for MOTOROLA certain exclusive rights for copyrighted MOTOROLA software such as the exclusive rights to reproduce in copies and distribute copies of such Motorola software. MOTOROLA software may be used in only the Product in which the software was originally embodied and such software in such Product may not be replaced, copied, distributed, modified in any way, or used to produce any derivative thereof. No other use including, without limitation, alteration, modification, reproduction, distribution, or reverse engineering of such MOTOROLA software or exercise of rights in such MOTOROLA software is permitted. No license is granted by implication, estoppel or otherwise under MOTOROLA patent rights or copyrights.

VII. PRODUCT WARRANTY SCHEDULE:

Spirit GT Series Radios: One (1) year.

Spirit GT Series Accessories: 90 days.

Rechargeable Batteries will be replaced during the applicable warranty period if:

- a) the battery capacity falls below 80% of rated battery capacity or,
- b) the battery develops leakage.

Computer Software Copyrights

The Motorola equipment described in this manual may include copyrighted Motorola computer programs stored in semiconductor memories or other media. Laws in the United States and other countries preserve for Motorola certain exclusive rights for copyrighted computer programs, including the exclusive right to copy or reproduce in any form the copyrighted computer program. Accordingly, any copyrighted Motorola computer programs contained in the Motorola equipment described in this manual may not be copied or reproduced in any manner without the express permission of Motorola, Inc. Furthermore, the purchase of Motorola equipment shall not be deemed to grant either directly or by implication, estoppel, or otherwise any license under the copyrights, patents or patent applications of Motorola, except for the normal nonexclusive, royalty free license to use arising by operation of law in the sale of this product.

Patent Notice

This product is covered by one or more of the following United States Patents:

| | | |
|---------|---------|----------|
| 5896277 | 5699006 | D 399821 |
| 5894592 | 5734975 | D 383745 |
| 5894292 | 5742484 | D 387758 |
| 5893027 | 5861850 | D 389827 |
| 5864752 | D408396 | D 389158 |
| 5789098 | D395882 | D 389139 |

Other Patents Pending.



Specifications

| Description | Specs |
|--------------------------|-----------------------------------------------------------------------------------------|
| Channels | 1 or 2 |
| Operating Frequency | UHF-464.5000 to 467.9250 MHz |
| Talk Range | Up to 4 miles |
| Power Source | NiMH Rechargeable Battery |
| Battery Life (talk time) | 9 Hours (5/5/90 duty cycle)* |
| | *Average times are calculated using 5% transmit, 5% receive and 90% standby time. |
| Nom RF Power | 1 Watt |
| Operating Temperature | -10 ⁰ C to 50 ⁰ C/14 ⁰ F to 122 ⁰ F |
| Storage Temperature | -55 ⁰ C to 85 ⁰ C/-67 ⁰ F to 185 ⁰ F |
| Operating Voltage | 3-6 Volts |

Notes:

Notes:

Visit the Motorola Website at:

www.motorola.com/spirit



6880906Z72-0